

CLAIMS

1. A sensor device having means for periodically generating a measured value of a property, comprising means for determining the rate of change in the measured property
5 and means for determining the values of the property being measured by similar devices, and means for adjusting the periodicity of measurement according to these values.
2. A sensor device according to claim 1, having means for determining the rate of change of the property being measured, and means for increasing the frequency with
10 which measurements are taken when the property being measured is changing.
3. A sensor device according to claim 2, comprising means for calculating the standard deviation of a predetermined number of preceding readings.
- 15 4. A sensor device according to any preceding claim, wherein the device has means for determining the values being measured by neighbouring devices, and means for controlling the device to reduce the frequency at which measurements are taken if neighbouring devices are obtaining the same values for the measurements.
- 20 5. A sensor device according to claim 4 comprising a transmitter to broadcast the measurements being taken by the device and a receiver to receive such broadcasts from similar devices.
- 25 6. A sensor device according to claim 5, comprising means for exchanging data with neighbouring devices for the purpose of relaying it to a data collection point, the data generated by the device or received from others being stored in a buffer until it can be transmitted.
7. A sensor device according to claim 5 or 6, the means for adjusting the periodicity
30 of measurement being responsive to the level of such traffic being handled by the device.
8. A sensor device according to claim 6, having means for determining the level of data traffic being carried by one or more neighbouring devices, means for comparing the traffic levels carried by the neighbouring devices with the traffic it is itself carrying, and
35 means for transmitting control data to other devices if it is carrying less traffic than the

other devices, and means for receiving such control data from devices identified as carrying less traffic than it is, the control data having the effect of adjusting the times at which the measurements are taken by the device receiving the control data.

5 9. A sensor device according to claim 8, wherein the control data generated by the transmitting device controls the receiving device to reduce its data measurement rate.

10. A method of operating a plurality of sensor devices, comprising the steps of:
each device periodically measuring a property,
10 each device determining the rate of change in the measured property
determining the values of the property being measured by each device, and
adjusting the periodicity of measurement according to these values.

11. A method according to claim 10, wherein the frequency with which
15 measurements are taken is increased when the property being measured is changing.

12. A method according to claim 11, wherein the change in the property being
measured is determined by calculation of the standard deviation of a predetermined
number of preceding readings.

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13. A method according to claim 10, 11 or 12, wherein a group of neighbouring
devices exchange measurement data, and reduce the frequency at which measurements
are taken if they are obtaining the same values for the measurements.

25 14. A method according to claim 13 wherein neighbouring devices exchange data for
the purpose of relaying it to a data collection point.

15. A method according to claim 14, the periodicity of measurement being responsive
to the level of such traffic being handled by the device.

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16. A method according to claim 13, 14 or 15, wherein each device determines the
level of data traffic being carried by one or more neighbouring devices, identifies the
device that is carrying the least traffic, and puts itself under the control of that device, and
wherein a device that determines that it is carrying less such traffic than any of its

neighbours assumes control of the data sensing rate for itself and those neighbours, and transmits control data to the said other devices.

17. A method according to claim 16, wherein the controlling device determines the
5 measurements being made by all the devices under its control, and transmits control data to cause them to reduce their data measurement rates if those measurements are substantially the same.

18. A method according to claim 16 or 17, wherein the controlling device causes the
10 devices under its control to stagger the times at which they take measurements.